

ABSTRACT

Suspension system for a vehicle is disclosed and claimed. The suspension system includes a compressible fluid, a suspension strut, a hydraulic cavity, a reservoir, and a volume modulator. The hydraulic cavity is at least partially defined by the suspension strut and is adapted to contain a portion of the compressible fluid. The hydraulic cavity and the compressible fluid supply a suspending spring force that biases a wheel of a vehicle toward the road surface. The volume modulator selectively pushes the compressible fluid into the hydraulic cavity and vents the compressible fluid from the hydraulic cavity, thereby actively modulating the suspending spring force.